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DATE OF DOCUMENT: 9/28/49	DATE DOCUMENT RECEIVED: 9/28/49
COPY NUMBER (S): one copy	LOGGED BY: AB
NUMBER OF PAGES: one DOCUMENT NO.	
NUMBER OF ATTACHMENTS: three-Cy # 8 of OSI/SR 15/49/1 & 15/49; Voting Slip	

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Atomic Energy

O S I

C E N T R A L I N T E L L I G E N C E A G E N C Y

NUCLEAR ENERGY BRANCH

STATUS OF THE U.S.S.R. ATOMIC ENERGY PROJECT
An Extended Estimate for the
Joint Staff Plans Group of the
Joint Chiefs of Staff

1 October 1949

NEI/SR-15/49/1

WARNING: For limited distribution only.

This report has been agreed upon by the members of the Joint Nuclear Energy Intelligence Committee which is composed of representatives of the Departments of State, Army, Navy, and Air Force, the Atomic Energy Commission, and the Central Intelligence Agency.

STATUS OF THE U.S.S.R. ATOMIC ENERGY PROJECT

The Joint Nuclear Energy Intelligence Committee makes the following estimate of future U.S.S.R. bomb capabilities in the light of recent events.

1. The explosion, somewhere in Siberia on or about 28 August 1949, of a Soviet atomic bomb (presumably their first) made of plutonium confirms our previous conclusion that the Soviet atomic energy project was directed toward the production of plutonium bombs.

2. The fixing of this date has made possible the reevaluation of much fragmentary information which previously we could not interpret. This reevaluation, together with some new information, leads to the following conclusion:

> The U.S.S.R. has had one and possibly two graphite-moderated production piles in operation since about October 1948. It is suspected that there is a third production pile under construction which may be in operation shortly. There is no evidence or indication that the Soviets are developing a uranium isotope separation process at the present time.

3. Based on this conclusion, on current estimates of the maximum amount of uranium available, on the assumption that the first bomb assembled was tested immediately, and on the assumption that their plants will operate at high efficiency, it is estimated that the maximum number of bombs in the Soviet stockpile will be roughly:

10	by	the	end of 1949
25	by	mid-1950	
50	by	mid-1951	
75	by	mid-1952	
110	by	mid-1953	

(For long range planning purposes after mid-1953, the bomb production rate may be assumed to be 40 per year; Nagasaki-type bombs have been assumed for purpose of calculation.) In making these estimates based on a plutonium bomb, it is assumed that the Soviets will put into effect by mid-1950 the more important improved procedures in pile operation recently instituted in the U. S.

4. The ultimate bomb stockpile depends not only on the supply of uranium ore, but also on the efficiency of the methods producing the fissionable materials. It is believed that the uranium ore supply is not a limiting factor now. The successful application of production methods which we can now envision will provide a more efficient utilization of their limited (relative to the U. S.) stockpile of uranium and will increase the ultimate stockpile by a substantial factor. Additional production facilities will be needed to increase the production rate significantly.

C S I

C E N T R A L I N T E L L I G E N C E A G E N C Y

NUCLEAR ENERGY BRANCH

STATUS OF THE U.S.S.R. ATOMIC ENERGY PROJECT

1 October 1949

OSI/SR-15/49

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